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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,196	03/16/2004	Koji Okazaki	Q79597	1630
23373	7590	12/09/2004		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
			EXAMINER FASTOVSKY, LEONID M	
			ART UNIT 3742	PAPER NUMBER

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/801,196	<b>Applicant(s)</b> OKAZAKI ET AL.	
	<b>Examiner</b> Leonid M Fastovsky	<b>Art Unit</b> 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040314</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of species Fig. 1-5, claims 1-10 in the reply filed on 9/29/04 is acknowledged.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

3. The abstract of the disclosure is objected to because it contains an extraneous word "comprises". Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al (JP59085932) in view of Ozaki (JP59060237).

Tanaka teaches a glow plug for an internal combustion engine, comprising a cylindrical housing 20 having front and rear housing end portions, a threaded portion 21 formed

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between the front and rear housing end portions for screwing the glow plug 1 into a plug hole of the engine and a sealing portion 37 (related to claim 5) formed on a front side of the threaded portion for engaging the housing 20 with a given portion of the plug hole to form airtight seal between the housing and the plug hole (Fig. 2, Abstract), a sheath 25 having a front sheath end portion and a rear end portion airtightly fixed in the front housing end portion, a heater (not marked) disposed in the sheath 25 and generating heat, a center electrode 31 disposed in the housing having a front electrode end portion, a rear electrode end portion projecting from the housing and an inward protrusion 33 protruding radially inwardly, the center electrode 31 being electronically connected at the front electrode end portion with the heater and mechanically connected with the sheath 25, and combustion pressure sensor having ring-shaped pressure-sensitive elements 28,29 inputted to a control circuit 12 to generate an electrical signal through signal line 30, and (as for claim 6), Tanaka teaches a protective cover 22 covering the rear housing end portion.

As for claim 3, Tanaka must inherently have a tool - engaging portion in order to screw the threaded portion 21 into a plug's hole.

As for claim 10, Tanaka teaches that the inner diameter of the elements 28,29 is smaller than an inner diameter of the tool-engaging portion of the housing 20.

However, Tanaka does not teach an outward protrusion portion and a method for manufacturing.

Ozaki discloses a glow plug having an inward protrusion 4a and an outward protrusion 15 that located radially inside the rear housing end portion 4 and pressure sensitive

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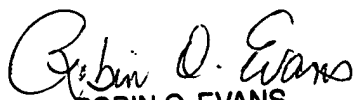
element 14. It would have been obvious to one having ordinary skill in the art to modify Tanaka's invention to include an outward protrusion portion as taught by Ozaki in order to support a pressure sensitive element.


Also, it would have been obvious to modify Tanaka's invention in view of Ozaki to include a method of manufacturing of the glow plug as specified in claims 6-8 because Tanaka in view of Ozaki discloses substantially all major elements of the invention and one of ordinary skill in the art would be able to manufacture the glow plug according to Tanaka and Ozaki teaching.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
ROBIN O. EVANS  
PRIMARY EXAMINER  
12/6/04

  
Leonid M Fastovsky  
12/6/04

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